DOCUMENT RESUME

ED 333 178 CE 058 194

AUTHOR	Moss, Jerome, Jr.; Johansen, Barry-Craig
TITLE	Conceptualizing Leadership and Assessing Leader Attributes.
INSTITUTION	National Center for Research in Vocational Education, Berkeley, CA.
SPONS AGENCY	Office of Vocational and Adult Education (ED), Washington, DC.
PUB DATE	Jun 91
CONTRACT	V051A80004-90A
NOTE	30p.
AVAILABLE FROM	National Center for Research in Vocational Education Materials Distribution Service, Horrabin Hall 46, Western Illinois University, Macomb, IL 61455 (order no. MDS-187: $2.50).
PUB TYPE	Reports - Research/Technical (143)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	Administrator Effectiveness; Administrator Qualifications; Definitions; *Leadership; *Leadership Qualities; *Leadership Training; Management Development; Personality Measures; Program Effectiveness; *Program Evaluation; *Rating Scales; *Self Evaluation (Individuals); Test Construction; Vocational Education
IDENTIFIERS	Leader Attributes Inventory

ABSTRACT

Leadership may be defined as both a process and a property. Research shows that some attributes common to successful leaders (characteristics, knowledge, and skills) can be significantly influenced by planned education or training. In the process of developing a leadership assessment instrument, a study specified four broad tasks that leaders are expected to perform and identified 37 attributes hypothesized to be most likely to predispose desirable leadership behaviors. The 37 attributes were assembled into the Leader Attributes Inventory (LAI). Three forms are available: (1) an other-rating form to assess an individual's perception of the extent to which she or he believes some other individual possesses each leader attribute; (2) a self-rating form to assess an individual's perception of the extent to which she or he currently possesses each attribute; and (3) a retrospective self-rating form. Studies have been conducted that provide evidence about LAI's usefulness in assessing leadership development. The consistency of LAI scores has been satisfactory. The LAI is suggested for evaluation of leadership development programs and for individual diagnosis. (29 references) (YLB)

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CONCEPTUALIZING LEADERSHIP AND ASSESSING LEADER ATTRIBUTES

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Supported by
The Office of Vocational and Adult Education,
U.S. Department of Education

June, 1991

MDS-187

CE058194

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FUNDING INFORMATION

Project Title:	National Center for Research in Vocational Education
Grant Number:	V051A80004-90A
Act under which Funds Administered:	Carl D. Perkins Vocational Education Act P.L. 98-524
Source of Grant:	Office of Vocational and Adult Education U.S. Department of Education Washington, DC 20202
Grantee:	The Regents of the University of California National Center for Research in Vocational Education 1995 University Avenue, Suite 375 Berkeley, CA 94704
Director:	Charles S. Benson
Percent of Total Grant Financed by Federal Money:	100%
Dollar Amount of Federal Funds for Grant:	$5,675,000
Disclaimer:	This publication was prepared pursuant to a grant with the Office of Vocational and Adult Education, U.S. Department of Education. Grantees undertaking such projects under government sponsorship are encouraged to express freely their judgement in professional and technical matters. Points of view or opinions do not, therefore, necessarily represent official U.S. Department of Education position or policy.
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TABLE OF CONTENTS

Introduction 1

Conceptualization 1
- The Definition 1
- The Tasks 3
- Attributes 3

Leadership Development 4
- The Potential 4
- The Purpose 11

Assessing Leader Attributes 11
- The Other-Rating Form 12
- Criterion Measures of Effectiveness 14
- The Self-Rating Form 21
- The Retrospective, Self-Rating Form 22

Using the *LAI* 26
- Evaluating Leadership Development Programs 26
- Individual Diagnosis 27
- Some Implications for Vocational Education 27

Next Steps 28
- Leadership Development 28
- Research 29

References 31

INTRODUCTION

The National Center for Research in Vocational Education (NCRVE) is required by law to "provide leadership development through an advanced study center" (U.S. Congress, 1984). However, the law fails to say what is meant by leadership development. Even a cursory review of the literature on leadership reveals that a great deal has been written about it by authors from a wide variety of disciplines and fields of practice. Despite all the attention (or perhaps because of it), the topic presents a conceptual snakepit. There is no agreement about what leadership is, why it occurs, how it is developed, or how it should be assessed. Fortunately, there is consensus that leadership can be recognized in practice, that aspects of behavior can be related to performance as a leader, and that educational interventions can affect the behavior of leaders.

Consequently, the first task of the NCRVE, housed at the University of California at Berkeley, has been to create its own conceptualization of leadership, and its own instrument for assessing leadership development. These are essential prerequisites to designing, developing, and conducting programs of leadership development. While it is always possible to disagree with the conceptualization, it would simply be irresponsible for NCRVE to proceed with providing service activities without one.

The purposes of this paper are to present the NCRVE's conceptualization, to provide the evidence accumulated to date about the usefulness of the instrument created to assess leadership development, and to briefly indicate the next steps for NCRVE'S research and service activities in leadership development.

CONCEPTUALIZATION

The Definition

From the perspective of NCRVE, leadership may be thought of in the following way:

> as both a process and a property. The *process* of leadership is the use of noncoercive influence to direct and coordinate the activities of the members of an organized group toward the accomplishment of group objectives. As

> a *property*, leadership is a set of qualities or characteristics attributed to those who are perceived to successfully employ such characteristics. (Jago, 1982, p. 315)

As a process, leadership means perceiving when change is needed, and influencing the group by noncoercive means (persuasion and example) in its effort at goal setting and goal achievement.

As a property, the definition of leadership has at least three important implications. First, leadership is ascribed to an individual by members of a group when they perceive the individual to possess certain qualities or attributes; only those who are so perceived are leaders. In other words, leadership is an inference—a judgement made on the basis of observed behavior. The specific meaning of leadership, therefore, depends upon the qualitative nature of the behavior accepted by a particular group as evidence of leadership. For example, the criteria for effective leadership in a board room is likely to differ from the criteria used by a street corner gang.

Second, those who are perceived as leaders have power. It is the noncoercive power of influence, of personal potency voluntarily conferred by the group. By contrast, individuals who are appointed to administrative positions have the power of authority. However, although administrators can be delegated authority and given subordinates, they cannot be given followers; followers must be earned. Administrators may have more opportunities to display leadership behaviors than individuals in other positions, but the position does not automatically confer leadership. Thus, we have administrators who are effective leaders and administrators who are not. Those who are leaders have the power of both authority and voluntarily conferred influence; those who are not leaders must rely upon their authority.

Third, any individual can demonstrate behaviors consistent with the process of leadership and be considered a leader by the rest of the group regardless of the position she or he holds in the group. In fact, if organizations are to prosper, they must have leaders at all levels of the hierarchy. Vocational education must have leaders in all of its professional roles if the system is to realize its potential.

The Tasks

The concept of leadership can be better understood by specifying the broad tasks that leaders are expected to perform—that is, what should people in organizations try to accomplish when they behave as leaders? The tasks are also important because they comprise the criteria by which the performance of individuals as leaders can be assessed. The following four broad tasks (or criteria for effectiveness) have been synthesized from several sources (Bass, 1981; Gardner, 1987; Posner & Kouzes, 1988; Yukl & Van Fleet, 1982):

1. Envision and instill goals and set high ethical standards that reaffirm shared basic values and that maintain the organization's viability in a changing context. In other words, leaders *inspire a shared vision*, which helps the organization achieve its next stage of development.

2. Achieve a workable unity among personnel and motivate them toward achievement of organizational goals. In other words, leaders *foster collaboration and ownership and recognize individual and team contributions.*

3. Plan and manage change efficiently and nurture the strengths of followers to facilitate goal directed efforts. In other words, leaders *exercise power effectively and enable others to act.*

4. Serve as a symbol of the group and influence constituents beyond the group to achieve mutually workable arrangements. In other words, leaders *act on the environment to set the right context for the organization.*

Attributes

The group's performance is influenced directly by the leader's behaviors. The leader's behaviors, in turn, are determined by their attributes—the characteristics, knowledge, and skills which Jago (1982) calls qualities—interacting with the leader's perception of group attributes, the particular task at hand, and the general context. Thus, although there have been many attempts to classify leadership behaviors (i.e., initiating

structure versus initiating consideration or transactional versus transformational), the specific behaviors of leaders are very situational. What is much more stable across situations (and over time) than behaviors are the leader's attributes. Attributes act as predispositions, facilitators, and constraints which predispose and shape behaviors in consistent ways. They remain constant to influence behaviors in a wide array of tasks, groups, and contexts (Lord, DeVader, & Alliger, 1986). For example, attributes determine the tendency of an individual to use transactional or transformational behaviors (Brown & Hosking, 1986; Kuhnert & Lewis, 1987). The greater the latitude provided by the situation, the more likely it is that attributes will shape behavior. Bass (1981) sums up this way:

> Strong evidence has been found supporting the view that leadership is transferable from one situation to another. Although the nature of task demands may limit transferability, there is a tendency for the leader in one group to emerge in this capacity in other groups. (p. 596)

Certain attributes have been shown to be consistently and significantly related to rated managerial performance; advancement in business, education, and the military; and the emergence rate of leaders (Arter, 1988; Behling & Champion, 1984; Hogan, Raskin, & Fazzini, 1988; Hollander & Offermann, 1988; House, 1988; Lord et al., 1986). Thus, there are some attributes which, if possessed in adequate amounts, will increase the likelihood that desirable leadership behaviors will occur in a wide variety of situations.

What are these attributes? After reviewing a large number of publications, the author compiled the list of thirty-seven attributes shown in Table 1. The list presents the attributes hypothesized to be most likely to predispose desirable leadership behaviors.

LEADERSHIP DEVELOPMENT

The Potential

Interviews with leadership trainers and reviews of evaluations of leadership-development activities reported in the literature reveal that some of the attributes common to successful leaders (characteristics, knowledge and skills) can be significantly influenced by a reasonable amount of planned education or training (Bass, 1981; Lester, 1981;

TABLE 1

Leader Attributes

J. Moss, H. Preskill, B. Johansen

1. ***Energetic with stamina***
   I approach my work with great energy and have the stamina to work long hours when necessary.

2. ***Insightful***
   I reflect on the relationships among events and grasp the meaning of complex issues quickly.

3. ***Adaptable, open to change***
   I encourage and accept suggestions and constructive criticism from my co-workers, and am willing to consider modifying my plans.

4. ***Visionary***
   I look to the future and create new ways in which the organization can prosper.

5. ***Tolerant of ambiguity and complexity***
   I am comfortable handling vague and difficult situations where there is no simple answer or no prescribed method for proceeding.

6. ***Achievement-oriented***
   I am committed to achieving my goals and strive to keep improving my performance.

7. ***Accountable***
   I hold myself answerable for my work and am willing to admit my mistakes.

8. ***Assertive, initiating***
   I readily express my opinion and introduce new ideas.

9. ***Confident, accepting of self***
   I feel secure about my abilities and recognize my shortcomings.

10. ***Willing to accept responsibility***
    I am willing to assume higher level duties and functions within the organization.

11. ***Persistent***
    I continue to act on my beliefs despite unexpected difficulties and opposition.

12. ***Enthusiastic, optimistic***
    I think positively, approach new tasks with excitement, and view challenges as opportunities.

13. ***Tolerant of frustration***
    I am patient and remain calm even when things don't go as planned.

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14. ***Dependable, reliable***
I can be counted on to follow through to get the job done.

15. ***Courageous, risk-taker***
I am willing to try out new ideas in spite of possible loss or failure.

16. ***Emotionally balanced***
I have a sense of humor and an even temperament even in stressful situations.

17. ***Committed to the common good***
I work to benefit the entire organization, not just myself.

18. ***Personal integrity***
I am honest and practice the values I espouse.

19. ***Intelligent with practical judgment***
I learn quickly, and know how and when to apply my knowledge.

20. ***Ethical***
I act consistent with principles of fairness and right or good conduct that can stand the test of close public scrutiny.

21. ***Communication (listening, oral, written)***
I listen closely to people with whom I work and am able to organize and clearly present information both orally and in writing.

22. ***Sensitivity, respect***
I genuinely care about others' feelings and show concern for people as individuals.

23. ***Motivating others***
I create an environment where people want to do their best.

24. ***Networking***
I develop cooperative relationships within and outside of the organization.

25. ***Planning***
I work with others to develop tactics and strategies for achieving organizational objectives.

26. ***Delegating***
I am comfortable assigning responsibility and authority.

27. ***Organizing***
I establish effective and efficient procedures for getting work done in an orderly manner.

28. ***Team building***
I facilitate the development of cohesiveness and cooperation among the people with whom I work.

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29. ***Coaching***
I help people with whom I work develop knowledge and skills for their work assignments.

30. ***Conflict management***
I bring conflict into the open and use it to arrive at constructive solutions.

31. ***Time management***
I schedule my own work activities so that deadlines are met and work goals are accomplished in a timely manner.

32. ***Stress management***
I am able to deal with the tension of high pressure work situations.

33. ***Appropriate use of leadership styles***
I use a variety of approaches to influence and lead others.

34. ***Ideological beliefs are appropriate to the group***
I believe in and model the basic values of the organization.

35. ***Decision-making***
I make timely decisions that are in the best interest of the organization by analyzing all available information, distilling key points, and drawing relevant conclusions.

36. ***Problem-solving***
I effectively identify, analyze, and resolve difficulties and uncertainties at work.

37. ***Information gathering and managing***
I am able to identify, collect, organize, and analyze the essential information needed by my organization.

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Manz & Sims, 1986; Yammarino & Bass, 1988). Yukl (1981), for example, reviewed twenty-six studies that utilized control groups to evaluate training in leadership skills and managerial motivation. The criteria were specific behaviors and performance of participants. He found that the training "can be quite effective for improving managerial skills, altering leadership behavior, and strengthening managerial motivation" (p. 284).

There are, of course, some very stable attributes which limit the potential effects of educational interventions. Those attributes that are resistant to change might comprise criteria for the selection of leaders, while those attributes that are susceptible to change should be the objectives of leadership-development activities.

The Purpose

The general purposes of leadership development in vocational education are to increase the number and quality of leaders prepared to meet present and future challenges facing the field. More specifically, the NCRVE will seek to accomplish those purposes by deliberately attempting to effect positive change in selected attributes (characteristics, knowledge, and skills) to increase the likelihood that vocational educators will (1) perceive opportunities to behave as leaders, (2) grasp those opportunities, and (3) succeed in influencing group behaviors in a wide variety of situations and professional roles.

ASSESSING LEADER ATTRIBUTES

The thirty-seven attributes (shown in Table 1) have now been assembled into the *Leader Attributes Inventory* (*LAI*). The following three forms are available: (1) an other-rating form to assess an individual's perception of the extent to which she or he believes *some other individual* possesses each of the leader attributes; (2) a self-rating form to assess an individual's perception of the extent to which she or he *currently* possesses each of the attributes; and (3) a retrospective self-rating form to assess an individual's perception of the extent to which she or he possessed each of the attributes *at some previous point in time*. A seven-point rating scale, ranging from forty to one hundred percent in ten percent

intervals, is provided for each attribute to indicate the percent of time the attribute accurately describes the subject of the inventory.

The Other-Rating Form

Three studies have been completed to test the reliability, validity, and utility of the *LAI* when it is used as an other-rating instrument. The first of these studies was a qualitative analysis conducted by Finch, Gregson, and Faulkner (1989) at Virginia Polytechnic Institute and State University. They identified highly successful secondary and postsecondary vocational administrators in seven states. Each administrator and two of her/his instructors were then interviewed. The administrators were asked to describe in detail two behavioral events in which they felt successful and one event in which they felt unsuccessful. The instructors were asked to describe just two behavioral events in which the vocational administrator was particularly effective as a leader. A detailed description of 272 behavioral events resulted from the interview process. The events were then analyzed to determine the attributes that would predispose and direct the successful behaviors (and the attributes whose absence would predispose unsuccessful behaviors). The authors concluded that

> The support that identified behaviors lend to Moss's listing of leader attributes is most encouraging. Even though several of the attributes were linked to a small number of behavior examples, most attributes could be tied to a host of relevant behaviors. (p. 88)

The other two studies were conducted at the University of Minnesota. In one of them (Moss & Liang, 1990), the *LAI* was administered to a stratified (by gender and college) random sample of full-time vocational instructors in Minnesota's thirty-four postsecondary technical colleges. The instructors were asked to rate the vocational administrator (director, assistant director, or adult evening director) whom they knew best on each of thirty-five leader attributes (the number of attributes has since been increased to thirty-seven) and on each of four broad leader tasks. The four leader tasks—inspire a vision, foster collaboration and ownership, exercise power effectively and enable others to act, and set the right (external) context for the organization—were used as criteria for rating effective leadership performance.

With 282 respondents, all thirty-five leader attributes were significantly (.001 level) related to all four items of leadership effectiveness. The higher correlations, however, were obtained between each of the thirty-five attributes and the mean of the four items of effective performance. Correlation coefficients with the mean ranged from .56 to .82, averaging .70. A stepwise multiple regression was conducted to obtain a set of leader attributes that best explained the variance in the mean of the four items of effective performance. The following six attributes were found to explain eighty-one percent of the variance: (1) motivating others; (2) team building; (3) adaptable, open, flexible; (4) gathering and managing information; (5) willing to accept responsibility; and (6) insightful.

When a separate sample of thirty-six instructors was used, test-retest reliability coefficients for each of the thirty-five attributes (with a two week interval) ranged from .64 to .87. The reliability coefficients for the four effectiveness items and their mean ranged from .81 to .92.

The third study (Moss, Johansen, & Preskill, in press) was conducted using a class of masters- and baccalaureate-level students majoring in management. All thirty-eight students were employed in business and most claimed to have some management experience. The students were asked to rate the one manager whom they knew best on each of the thirty-seven leader attributes using a seven-point scale. They were also asked to rate the same manager on each of four broad tasks/criteria using a five-point scale ranging from "Extremely effective" to "Not effective." The criterion items were identical to the items used with the Minnesota technical college instructors. Correlation coefficients between each of the thirty-seven leader attributes and the mean of the four criterion items ranged from .40 to .88, with an average of .72.

Three weeks after the first administration, the *LAI* was re-administered to the management class. The test-retest reliabilities of the thirty-seven attributes ranged from .53 to .89, averaging .76.

Table 2, which summarizes the validity and reliability findings of both empirical studies, clearly reveals their consistency. Given that the perceptions of subordinates is a proper way to assess leadership effectiveness (as called for by the NCRVE conceptualization), and that the four tasks of leadership used as criteria of effectiveness are appropriate, the results of the three studies demonstrate that all of the thirty-seven leader

attributes are highly related to the leadership effectiveness of vocational administrators and business managers.

Criterion Measures of Effectiveness

The usefulness of the thirty-seven leader attributes as valid correlates of effective leadership performance depends upon the acceptability of the criteria used to assess performance. In two of the three validity studies reported above, the four criteria used to assess effective performance were all measures of the leader's perceived contribution to the quality of the group process: (1) inspiring a vision, (2) fostering collaboration and ownership and recognizing individual and team contributions, (3) exercising power effectively and enabling others to act, and (4) acting on the environment to set the proper context for the organization. But there are other types of outcomes and specific criteria that might have been used. Consequently, a study was conducted at Minnesota for the primary purpose of determining the kinds of criteria vocational instructors actually use when they judge the leadership effectiveness of their administrators (Moss, Finch, & Johansen, 1990).

Based upon a review of the literature and the investigators' philosophic views, a system for classifying leadership effectiveness was designed (see Figure 1). The three major divisions of the classification system are based upon the following three types of outcomes or consequences proposed by Yukl (1989): (1) extent to which the leader's behavior is perceived to improve the quality of the group process; (2) extent to which the leader's behavior is perceived to have had a personal impact upon followers/subordinates; and (3) extent to which the leader's behavior is perceived to have helped the organization (school) perform its tasks successfully and attain its goals. Each of the three types of outcomes were divided into categories of criteria, and then samples of specific criteria were created to illustrate each category.

TABLE 2

LAI Other-Rating Form: Validity and Reliability Coefficients

Coefficients	Sample Minnesota Technical College Instructors	Managerial Class
A. Validity*		
Average Coefficient	.70	.72
Range of Coefficients	.56 - .82	.40 - .88
B. Reliability**		
Average Coefficient	.78	.76
Range of Coefficients	.64 - .87	.53 - .89

*Each of the thirty-seven attributes correlated with the mean of four criterion items.

**Test-retest reliability of each of the thirty-seven attributes measured two and three weeks apart.

FIGURE 1

Categories of Leadership Criteria

A. **Extent to which the leader's behavior is perceived to improve the quality of the group process.**

Category 1. Envision and instill goals and set high ethical standards that reaffirm shared basic values and that maintain the organization's viability in a changing context. (In other words, leaders inspire a shared vision, develop a mission, and establish standards which help the organization achieve its next stage of development.)

Sample specific criteria:
(a) Define reality for the group in the larger context.
(b) Build the organizational culture (instill shared values and beliefs).
(c) Create a sense of mission/purpose.
(d) Arouse, inspire, excite followers.

Category 2. Achieve a workable unity among personnel and motivate them toward achievement of organizational goals. (In other words, leaders foster teamwork, collaboration, and ownership and motivate by recognizing individual and team contributions.)

Sample specific criteria:
(a) Create a climate of community.
(b) Build morale.
(c) Set a positive tone.
(d) Resolve conflict.
(e) Recognize and reward contributions.

Category 3. Plan and manage change efficiently and nurture the strengths of followers to facilitate goal directed activities. (In other words, leaders implement change by exercising power effectively and by enabling/empowering others to act.)

Sample specific criteria:
(a) Delegate authority and responsibility appropriately.
(b) Provide a strategy of hope.
(c) "Walk the way they talk."
(d) Elevate the interests of the group as a whole.
(e) Frame issues and assign priorities.

Category 4. Serve as a symbol of the group and influence constituents beyond the group to achieve mutually workable arrangements. (In other words, leaders exert external influence to set the right context for the organization.)

Sample specific criteria:
(a) Monitor the environment.
(b) Defend the group (from external attack).
(c) Secure resources.
(d) Challenge the established structure, system, hierarchy.
(e) Promote the organization.
(f) Build coalitions and mobilize opinion.

Category 5. Establish an environment conducive to learning.

Sample specific criteria:
(a) Model the way.
(b) Provide intellectual stimulation.
(c) Facilitate professional development of staff.
(d) Improve the instructional process/curriculum.
(e) Create a climate of caring (about students).

B. Extent to which the leader's behavior is perceived to have had a personal impact on followers (teachers).

Category 1. Satisfy followers' job-related needs and expectations.

Sample specific criteria:
(a) Engender loyalty.
(b) Gain confidence, trust, respect.
(c) Utilize appropriate method/styles of leadership.
(d) Create a satisfying work environment.
(e) Handle grievance/discipline situations satisfactorily.

Category 2. Increase followers' (teachers') engagement with their work.

Sample specific criteria:
(a) Inspire extra effort.
(b) Encourage professional development.
(c) Value the teaching role.

C. Extent to which the leader's behavior is perceived to have helped the group/institution perform its tasks successfully and attain its goals.

Category 1. Improve the effectiveness and efficiency of instruction.

Sample specific criteria:
(a) Improve the quality of instruction.
(b) Develop and implement system(s) to assess student performance.
(c) Assure that programs are state-of-the-art.

Category 2. Provide greater equity and access.

Sample specific criteria:
(a) Make programs accessible to special populations.

Category 3. Become more responsive to labor market and community needs.

Sample specific criteria:
(a) Increase the placement rate in related occupations.
(b) Keep programs current with the needs of the community.
(c) Enhance the institution's reputation and image.

Category 4. Satisfy the vocational development needs of students.

Sample specific criteria:
(a) Decrease the dropout rate.
(b) Increase the number of former students who go on to advanced training.

The database accumulated by Finch et al. (1989) was then reanalyzed. One-hundred and fifty-four behavioral events in the database describing situations in which instructors felt their vocational administrators had demonstrated particularly effective leadership performance were analyzed to identify the criteria teachers had used (implicitly) in selecting and describing the exemplary leadership behaviors.

Table 3 presents the results of the analysis. It reveals that criteria used most frequently by instructors to identify effective leadership are those which "satisfy the instructors' job-related needs." The next four most frequently used categories of criteria are all "group process" outcomes. "Inspire a vision" is the only group process outcome used as a criterion in the *LAI* validity studies that is apparently not used frequently by instructors.

The results of this study indicate that future tests of the *LAI*'s validity should use the following six criterion items: (1) satisfy job-related needs, (2) implement change and empower others, (3) exert external influence, (4) achieve unity and motivate, (5) establish a learning environment, and (6) inspire a shared vision. The latter is included, despite its infrequent use by the instructors in this study, to make the categories of group process outcomes complete, and because it is so frequently noted by scholars as critical to what effective leaders *should* be doing.

The Self-Rating Form

Since leadership is an ambiguous but socially desirable quality, it presents some special problems in the development, administration, and interpretation of a self-report instrument. After trying out the *LAI* as a self-report with several groups of graduate students, revising items to clarify attribute definitions, and experimenting with several scales, it became obvious that graduate students perceive themselves as leaders or potential leaders. They honestly rate themselves highly on the leader attributes, leaving very little room on the scale to show improvement after a leadership development activity. Further, the low variability of scores on each attribute inevitably resulted in low test-retest reliability correlations.

The bunching of individual scores on an attribute is not, however, important in the evaluation of programs—there is no need to discriminate among individuals. Our interest is in the *consistency* with which each individual responds to the *LAI* on repeated administrations. Therefore, using two samples, the percent of individuals who responded either exactly the same or plus/minus one on the second administration of the *LAI* was calculated for each leader attribute. One sample was the graduate students in management (N=38) who had taken the *LAI* as a report-by-others using a seven-point scale. The second sample was of graduate students in vocational education (N=43) who had taken the *LAI* as a self-report using a nine-point scale. (It was assumed that plus/minus one on a seven-point scale represents reasonable consistency and is easier to attain than with a nine-point scale.)

Although the test-retest correlation coefficients on the report-by-others were satisfactory and the coefficients for the self-report were not, there was as much *consistency* of responses on the self-report using a nine-point scale as there was on the report-by-others using a seven-point scale.

Thus, it was concluded that the reliability of the *LAI* as a self-report, *when assessed in terms of response consistency*, is satisfactory.

The Retrospective, Self-Rating Form

While the consistency of *LAI* self-report scores is satisfactory, the fact that scores are bunched at the top of the rating scale renders the self-report useless for measuring change as a result of leadership-development activities. This is not an unusual phenomenon when pretesting relatively ambiguous, socially desirable qualities. At the time of the pretest, subjects lacked sufficient knowledge about the constructs being measured to make valid self-ratings. After engaging in the treatment program, participants have greater awareness of the constructs and of their own level of functioning with respect to them. They are, therefore, able to make more objective and accurate self-ratings. This change in participants' frames of reference—making them more realistic—is, in itself, a change in developmental \level. It permits individuals to behave intellectually and interpersonally in a more flexible, effective manner (Hunt, 1971).

TABLE 3

Frequency by Category of Leadership Criteria

Category	Frequency	%*
Group Process		
1. Inspire a shared vision	4	2
2. Achieve unity and motivate	28	12
3. Implement change and empower others	40	17
4. Exert external influence	33	14
5. Establish a learning environment	24	10
Impact on Instructors		
1. Satisfy job-related needs	47	20
2. Increase engagement with work	8	3
Organizational Outcomes		
1. Improve instruction	22	9
2. Provide equity and access	8	3
3. Increase labor market responsiveness	19	8
4. Satisfy student development needs	4	2
Total	237	100

*There may be rounding errors in percentages.

Several studies (Howard & Dailey, 1979; Howard et al., 1979; Howard, Schmeck, & Bray, 1979; Bray & Howard, 1980; Hoogstraten, 1982; Froberg, 1984) show that the use of self-reports as retrospective pretests result in more accurate assessments of the effects of treatment programs than do traditional pretests. As Froberg (1984) sums it up,

> if someone is asked to perform self-ratings of leadership ability, then the more that person knows about what comprises leadership ability, the more accurate the self-ratings will be. (p. 472)

Consequently, the *LAI* was administered twice to a group of twenty-five graduate students in vocational education at the last session of a leadership development program. (The program consisted of ninety hours of classwork, plus a considerable number of off-campus experiential assignments spread over a six-month period.) For the first administration of the *LAI*, the students were instructed to rate themselves as they were *before* beginning the leadership program (a retrospective measure). Then a second *LAI* form was distributed with instructions to students to rate themselves as they *currently* perceived their attributes (self-report form).

After reducing the current ratings to allow for an "inflationary" effect[1], twenty-four of the thirty-seven leader attributes showed statistically significant (.05 level) increases between the "before" and "current" ratings.

When the retrospective scores of this group were compared with the ratings given to administrators by teachers in the Moss and Liang (1990) study, they were found to be quite similar. In all likelihood the leadership development experience had shifted participants' frames of reference about their own attributes—it had lowered their pre-treatment perceptions, making them more consistent with the ratings others would have given them.

Three weeks after the end of the the program the same students were again asked to complete the *LAI*. After adjusting for "inflationary" effect, seventeen of the thirty-seven leader attributes continued to show statistically significant gains (.05 level) in ratings over their retrospective scores. Thus, the leadership development experience had, indeed,

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[1]The "inflationary" effect was estimated by averaging the increase in ratings on certain attributes which should *not* have been affected by the program, and by subtracting that average from the current ratings of all attributes.

changed participants' perceptions of their attributes, and, more to the point, the *LAI* was sensitive to those changes.

USING THE *LAI*

Evaluating Leadership Development Programs

One way to assess the effect of a leadership development program is to measure its impact on participants' perceptions of their own leader attributes. It is shown above that the use of the self-report form of the *LAI* as a typical pretest with participants who are relatively naive about leadership is very likely to result in an overestimation of the attributes and, consequently, an underestimation of the program's effect. Therefore, it is recommended that at the end of the leadership development program participants first complete the retrospective, self-rating form. The instructor should emphasize to participants that they are to rate themselves as they believe they were *before* the program began.

After the retrospective, self-rating forms have been completed and collected, the participants should then fill out the self-rating form. The instructor should make sure that participants understand that they are to rate themselves based upon their *current* perceptions of their attributes (after the conclusion of the leadership development program). Experience has shown that it takes fifteen to twenty minutes to complete each form of the *LAI*.

The effect of the leadership development program on the participants' perceptions of their own leader attributes can then be determined by comparing participants' current and retrospective self-ratings. Since a successful program may well introduce a generalized feeling of goodwill and high morale, the self-report (current) ratings for participants may be somewhat inflated across all attributes. To compensate for this "inflationary" effect, the average increase in selected attributes that should *not* have been effected by the program should be subtracted from all attributes.[2] For example, if the program was targeted at the participants' adaptability (attribute 3), then it might reasonably be inferred that any reported increase in participants' energy and stamina (attribute 1) and intelligence (attribute 19) is

[2]Theoretically, the "inflationary" effect can be negative as well as positive.

inflationary. The average of any increases on participants' self-ratings on energy and stamina and on intelligence would then be deducted from the current ratings of all attributes. Comparisons based upon the adjusted (corrected) current self-ratings with retrospective self-ratings would then yield a more conservative estimate of program effect.

If the program participants are in positions to have had subordinates or peers observe their leadership behaviors in realistic work situations, then it is useful to have four to five subordinates or peers rate each of the participants, using the other-rating form, *before* the start of the leadership program. These ratings may then be compared with ratings-by-others obtained *after* the program is completed to determine its impact on the perceptions of others (a typical pre/posttest design).

Individual Diagnosis

It is useful in the development of leader attributes to help individuals gain "realistic" perceptions of their own attributes. This can be facilitated by comparing self-ratings with ratings-by-others. The ratings-by-others can be by subordinates, peers, or supervisors. Comparisons of self-ratings with an appropriate norm group can also be helpful.

Some Implications for Vocational Education

As envisioned throughout its development, two of the potential uses of the *LAI* by vocational educators are (1) as a tool for program evaluation and (2) as a self-assessment. Used to measure change in leader attributes resulting from instruction or other experiences, the *LAI* can help to evaluate the effectiveness of leadership development activities, thereby improving the efficiency of those activities and encouraging their widespread use. Used as one of a battery of self-assessment instruments, the *LAI* will help individuals increase the realism of their self-concepts and indicate the attributes most in need of strengthening. Taken together, it is hoped that the availability of the *LAI* and the conceptualization of leadership will make the development of more and better leaders for vocational education a realistic, attainable goal, and that, as a result, vocational educators will be encouraged to pursue that goal with much greater vigor than in the past.

NEXT STEPS

This report began with the stated purposes of presenting NCRVE's conceptualization of leadership and the instrument that has been created to assess leadership development activities—the *LAI*. With these tasks completed, it is fitting to close by reporting some of the NCRVE's other leadership activities, as well as some plans for next steps. Two strands of concurrent activities will be described: (1) leadership development and (2) research.

Leadership Development

Based upon the presumption of strong relationships between the leader attributes and effective leadership in vocational education, several instructional and developmental activities have been undertaken and others are planned. At Virginia Polytechnic Institute and State University, Curtis Finch is now identifying and assessing existing administrator development formats and materials. Next year, he will prepare and test an interactive simulation and a set of research-based case studies designed to facilitate leadership development in vocational education environments.

A conference was held in 1990 for teacher educators in graduate programs of vocational education to familiarize them with the NCRVE's concept of leadership and with promising leadership development strategies and activities. Following the conference, a "Request for Proposals" (RFPs) was sent to all vocational teacher education graduate programs inviting proposals to design and conduct leadership-development activities for their graduate students. Seven of the proposals were subsequently funded and those projects are underway. The NCRVE's role will now be to evaluate the projects and to disseminate the results so that interest in and the quality of leadership-development activities across the nation can be strengthened.

Beginning in 1991, proposals to conduct leadership-development projects for currently practicing leaders in the field will be solicited, supported, and then evaluated by NCRVE. In the future, norms could be established so individuals would be able to compare their standing on leader attributes with that of known groups. NCRVE's attention

might then turn to creating an individualized service that assesses existing leader attributes, identifies the attributes that might be strengthened, and recommends appropriate leadership-development activities.

Research

While the number of questions that might be studied are almost unlimited, three problem areas come immediately to mind. First, more studies are certainly needed to gain confidence in the generalizability of the relationship between leader attributes and leadership effectiveness and the impact of situational variables. For example, are there gender differences, differences between leaders at various educational levels, and differences among leaders at various levels of the educational hierarchy in the nature and mix of critical attributes?

The developmental characteristics of leader attributes should be investigated. Are there stages of leadership development? As young leaders emerge, mature, and assume increasing responsibilities throughout their careers, what changes occur in their behaviors and in their attributes? Are these changes similar to differences that might be found among leaders who occupy positions at different levels in the organization? Is the growth of some attributes prerequisite to the attainment of others?

Last, but not least, most leader attributes are developed on-the-job. What kinds of experiences can education systems provide to employees that best stimulate and facilitate their development as leaders? How can these experiences be institutionalized through organizational structures and job descriptions?

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